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10/642,481	08/18/2003	Nobuyuki Enomoto	MA-583-US	3816

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MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC
8321 OLD COURTHOUSE ROAD
SUITE 200
VIENNA, VA 22182-3817

EXAMINER

BIAGINI, CHRISTOPHER D

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2442

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10/27/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/642,481	Applicant(s) ENOMOTO ET AL.	
	Examiner Christopher Biagini	Art Unit 2442	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-9, 11-15, 18-24, 26-30, 33-39 and 41-45 is/are pending in the application.
- 4a) Of the above claim(s) 6, 15, 21, 30, 36 and 45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-5, 7-9, 11-14, 18-20, 22-24, 26-29 and 31-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/11/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Election/Restrictions

Claims 6, 15, 21, 30, 36, and 35 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on August 29, 2008.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on June 11, 2008 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

Response to Arguments

The Examiner notes that any arguments with respect to claims 6, 15, 21, 30, 36, and 35 are moot as these claims are withdrawn from further consideration.

Applicant's arguments regarding the rejections under 35 USC 101 have been fully considered but are not persuasive. The rejection has been withdrawn for those claims amended to recite a computer-readable medium (claims 5, 7, 20, 22, 35, and 37), but is maintained for claims 3, 4, 8, 9, 11-14, 18, 19, 23, 24, and 26-29. The rejection has been clarified below, and applicant is directed to MPEP 2106.01 which contains ample case law citations and guidance on the matter.

Applicant's arguments regarding the rejections under 35 USC 112 have been fully considered but are not persuasive. The amendments to the claims introduce new deficiencies as described below.

Applicant's arguments regarding the rejections under 35 USC 103(a) have been fully considered but are not persuasive.

Regarding the argument that the 802.1D specification does not show that the filtering database stores an output port for a destination MAC address, the Examiner respectfully disagrees. See Section 7.9.2, which describes that dynamic filtering entries specify an individual MAC address and a port map which "specifies forwarding of frames destined for that MAC Address to a single Port." Furthermore, it is unclear to the Examiner how Fig. 7-9 contradicts this assertion.

In response to applicant's arguments against Williams individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that Williams and the 802.1D references are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed

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invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both references are in the field of applicant's endeavor, computer networking.

In response to Applicant's argument that the Examiner has applied a "circular reasoning argument," the Examiner respectfully disagrees. Indeed, Williams has provided an explicit suggestion of the desirability of the claimed invention, as described below. See also MPEP 2143.01, which describes the various motivations for combining references.

In response to Applicant's argument that the combination would "change the principle of operation" of the 802.1D specification, the Examiner respectfully disagrees and notes that Applicant has failed to provide any specific technical analysis to support this assertion.

In response to Applicant's argument that the combination "would not result in a reasonable expectation of success," the Examiner respectfully disagrees and notes that Applicant has failed to provide any specific technical analysis to support this assertion.

Applicant's arguments with respect to the rejection of claims 11, 14, 26, 29, 41, and 44 have been fully considered but are not persuasive. Applicant incorporates arguments presented with respect to the independent claims, and the Examiner respectfully disagrees for at least the reasons given above.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the specification does not contain proper antecedent basis for the limitation

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“...stores an output port for a destination MAC address and tag destination MAC address assigned by the learning frame management unit.”

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 3, 4, 8, 9, 11-14, 18, 19, 23, 24, and 26-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims may all be reasonably interpreted as encompassing embodiments which consist entirely of software. For example, the specification does not provide an indication that a “learning frame management unit” requires anything but a software process. Furthermore, the “MAC forwarding table memory” is merely a data structure, as illustrated in Fig. 16. Similarly, the “MAC SA table cache” is illustrated as a data structure in Fig. 13.

Software, absent a structurally and functionally interrelated computer-readable medium, is not statutory subject matter. See MPEP 2106.01.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 3-5, 7-9, 11-14, 18-20, 22-24, 26-29, 33-35, 37-39, and 41-44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

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The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 3, 18, and 33 each recite the limitation "...stores an output port for a destination MAC address and tag destination MAC address assigned by the learning frame management unit." There is no support for this language in the specification.

Any claim not addressed above is rejected for at least incorporating the deficiencies of a claim upon which it depends.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-5, 7-9, 11-14, 18-20, 22-24, 26-29, 33-35, 37-39, and 41-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3, 18, and 33 each recite the limitation "...stores an output port for a destination MAC address and tag destination MAC address assigned by the learning frame management unit." This limitation is not sufficiently clear to allow a person of ordinary skill in the art to determine the metes and bounds of the claims.

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Any claim not addressed above is rejected for at least incorporating the deficiencies of a claim upon which it depends.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-5, 7-9, 12, 13, 18-20, 22-24, 27, 28, 33-35, 37-39, 42, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over ANSI/IEEE Std. 802.1D, 1998 Edition (hereinafter "the 802.1D specification") in view of Williams et al. (US Patent No. 6,515,993, hereinafter "Williams").

Regarding claim 3, the 802.1D specification shows a network system for a network having plural nodes connected (see Fig. 7.1), wherein a node (comprising a bridge) belonging to said network comprises:

- a learning frame management unit (comprising a forwarding process, which is implemented by a processing unit) which refers to a MAC SA table cache (comprising querying a filtering database) to determine whether a learning frame transmission request corresponding to said MAC SA has been is made (comprising determining whether a frame has been received that indicates an address-port mapping: see section 7.9.5 on p. 47 and section 7.8 on p. 42),

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- a MAC forwarding table memory (comprising a filtering database) which stores an output port for a destination MAC address (see section 7.9 on p. 42 and section 7.9.2 on p. 44), and
- the MAC SA table cache which stores a source MAC address which has made a learning frame transmission request (note that entries made by the learning process are based on the source address of frames: see section 7.8 on p. 42).

The 802.1D specification does not show that the MAC forwarding table stores an output port for tag operations.

Williams shows storing an output port for tag destination MAC address assigned by a management unit (see table 601 in Fig. 6 and col. 10, lines 60-63, and note that CPU 32 is a management unit because it manages the tables).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the 802.1D specification with the port-tag mappings taught by Williams in order to provide the ability to tag a frame that is to be transmitted via a tagged port (see Williams, col. 2, lines 30-33).

Regarding claim 4, the combination of the 802.1D specification and Williams shows the limitations of claim 3 as applied above, and the 802.1D specification further shows wherein said nodes comprise an aging request acceptance unit which ages said MAC SA table cache (see first paragraph on p. 45), and a transmission request unit which makes a learning frame transmission request (comprising a bridge port which receives a frame and sends it to a learning process: see

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Fig. 7-5 and section 7.8 on p. 42). Note that the learning process uses the learning frame transmission request to manage a table (comprising the filtering database).

The 802.1D specification does not explicitly show sending the request to a CPU.

Williams shows a CPU managing a table (see col. 10, lines 57-61).

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the 802.1D specification to use a CPU as taught by Williams in order to implement the specification with readily available computing hardware.

Regarding claim 5, the combination of the 802.1D specification and Williams shows the limitations of claim 4 as applied above, and the 802.1D specification further shows wherein said nodes have a learning management program which conducts a learning frame process (see section 7.8 on p. 42).

Regarding claim 7, the combination of the 802.1D specification and Williams shows the limitations of claim 3 as applied above, and the 802.1D specification further shows wherein said node has an equipment control program which conducts a variety of configurations (comprising the configuration of reserved addresses, static filtering information, and traffic class information: see section 7.1.2).

Regarding claim 8, the combination of the 802.1D specification and Williams shows the limitations of claim 3 as applied above, and the 802.1D specification further shows said node comprises a frame type judgment unit which judges an input frame (comprising a forwarding

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process, which judges whether to forward incoming frames, and where to forward them to: see section 7.7.2).

Regarding claim 9, the combination of the 802.1D specification and Williams shows the limitations of claim 3 as applied above, and the 802.1D specification further shows wherein a node belonging to said network comprises: an aging control unit which ages an entry to be aged (comprising the unit which ages entries in the filtering database: see first paragraph of p. 45), and an aging management table which stores an entry to be aged (comprising the filtering database, which stores the dynamic filtering entries which are aged).

Regarding claim 12, the combination of the 802.1D specification and Williams shows the limitations of claim 3 as applied above, and further shows wherein said node comprises a tag forwarding table memory which stores an output port for a forwarding tag (comprising the memory which holds tables 601 and 603 in Fig. 6: see Williams, col. 10, line 57 to col. 11, line 21).

Regarding claim 13, the combination of the 802.1D specification and Williams shows the limitations of claim 3 as applied above, and the 802.1D specification further shows wherein said node comprises: a table (filtering database: see section 7.9); an aging circuit (comprising the circuit which ages entries in the filtering database: see p. 45); and a forwarding table having a table read/write circuit (comprising a filtering database, which necessarily has a read/write circuit because it can be read from and written to: see p. 33).

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Claims 18-20, 22-24, 27, and 28 are apparatus claims corresponding to system claims 3-5, 7-9, 12, and 13 and are rejected for the same reasons as applied above.

Claims 33-35, 37-39, 42, and 43 are method claims corresponding to system claims 3-5, 7-9, 12, and 13 and are rejected for the same reasons as applied above.

Claims 11, 14, 26, 29, 41, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over ANSI/IEEE Std. 802.1D, 1998 Edition ("the 802.1D specification") in view of Williams (US Patent No. 6,515,993), and further in view of Liu (US Pub. No. 2002/0191628).

Regarding claim 11, the combination of the 802.1D specification and Williams shows the limitations of claim 3 as applied above, but does not explicitly show wherein said node comprises a broadcast table memory which stores an output destination port at a time of broadcasting to a tag.

Liu shows a broadcast table memory which stores an output destination port at a time of broadcasting to a tag (see [0023]-[0024]).

It would have been obvious to one of ordinary skill in the art to further modify the 802.1D specification to store an output destination port at a time of broadcasting to a tag in order to prevent the system from having to calculate the port repeatedly (see Liu, [0024]).

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Regarding claim 14, the combination of the 802.1D specification and Williams shows the limitations of claim 3 as applied above, but does not explicitly show wherein said node comprises a TAG address management table which stores an address of a forwarding tag on a MAC forwarding table memory.

Liu shows a tag address management table which stores an address of a forwarding tag (see [0022]).

It would have been obvious to one of ordinary skill in the art to further modify the 802.1D specification to store an address of a forwarding tag as taught by Liu in order to provide for efficient distribution of broadcast messages to that tag (see Liu, [0007]).

Claims 26 and 29 are apparatus claims corresponding to system claims 11 and 14, and are rejected for the same reasons as applied above.

Claims 41 and 44 are method claims corresponding to system claims 11 and 14, and are rejected for the same reasons as applied above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER D. BIAGINI whose telephone number is (571)272-9743. The examiner can normally be reached on weekdays from 8:30 AM to 5:00 PM..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christopher Biagini
(571) 272-9743

/Andrew Caldwell/
Supervisory Patent Examiner, Art Unit
2442

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